

CLAIMS

What is claimed is:

1. A repeater device for a wireless network comprising:
 - a detector, for determining if a signal is being received on a monitored
 - 5 radio frequency channel;
 - a delay for delaying said received signal while detecting same, the delay being at least equal to a time need for the detector to determine if a signal is being received; and
 - a transmitter, for re-transmitting the delayed received signal.
- 10 2. A repeater device as in Claim 1 wherein the repeater device is packaged in a power converter housing.
3. A repeater device as in Claim 1 wherein the delayed received signal is re-transmitted on a different frequency channel than the received signal.
- 15 4. A repeater device as in Claim 1 wherein the delayed received signal is re-transmitted on a carrier frequency that is different from the carrier frequency of the monitored radio frequency channel.
5. A repeater device as in Claim 1 wherein a single antenna is used for receiving signals on the monitored channel and for re-transmitting signals.
- 20 6. A repeater device as in Claim 1 wherein a separate antenna is used for receiving signals on the monitored channel and for re-transmitting signals.

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7. A repeater device as in Claim 1 wherein the received signal is a Time Division Duplex (TDD) type signal such that signals are not transmitted and received by the same device at the same time on the same frequency.
8. A repeater device as in Claim 6 wherein at least one antenna is a directional antenna.
9. A repeater device as in Claim 1 wherein the detector determines if the received signal is present on one of at least two monitored channels.
10. A repeater device as in Claim 1 wherein the detector determines if the received signals is present on one of twelve monitored channels.
- 10 11. A repeater device as in Claim 1 additionally comprising:
a down-converter, for processing the received signal to produce an Intermediate Frequency (IF) received signal.
12. A repeater device as in Claim 11 wherein the detector is a diode detector coupled to the IF received signal.
- 15 13. A repeater device as in Claim 11 wherein the detector is a matched filter coupled to the IF received signal.
14. A repeater device as in Claim 1 wherein the detector is a diode detector coupled to the received signal.
15. A repeater device as in Claim 1 wherein the detector is a matched filter coupled to the received signal.

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16. A repeater device as in Claim 1 wherein the transmit frequency may be one of the receive channel frequencies.
17. A repeater device as in Claim 1 wherein the received signal arrives at the repeater from a first direction, and the transmitted signal is sent in a second
5 direction.
18. A repeater device as in Claim 7 wherein a received signal received on a first channel, F1, is re-transmitted on a second channel, F2, and a signal received on the second channel, F2, is re-transmitted on the first channel, F1.